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| 10/519,140  | 12/22/2004  | Jouchim Charzinski   | 2002P10121WOUS      | 4448             |
| 29177 7590 03/18/2008<br>BELI., BOYD & LLOYD, LLP<br>P.O. BOX 1135<br>CHICAGO, IL 60690 |             |                      |                     |                  |
| EXAMINER  |             |                      |                     |                  |
| LAL, ANDREW   |             |                      |                     |                  |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/519,140

**Applicant(s)**

CHARZINSKI ET AL.

**Examiner**

ANDREW LAI

**Art Unit**

2616

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 10-29 is/are pending in the application.
- 4a) Of the above claim(s) 14-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-13 and 19-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 10-13 and 19-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Clark et al (US 5,970,640, Clark hereinafter).

Clark discloses "real time control architecture for admission control in communication network" (col. 1 lines 1-3) comprising the following features:

- **Regarding Independent Claims 10, 26 and 27**

**Claims 10**, *a method for controlling a network element in a communication network* (see "the present invention aim to provide a control method and apparatus for controlling admission of communications connection to a communications network comprising a plurality of nodes and links" recited col. 2 lines 31-34, which is depicted in fig. 2 that "illustrates schematically a communications network comprising a plurality of node elements and a plurality of link elements" recited col. 5 lines), *the method comprising:*

*providing a plurality of behavior rules by the network element* (see "collecting a plurality of admission control policy data each relating to an admission control policy for admitting communications traffic data to a said node element" recited col. 2 lines 52-54);

*autonomously selecting a behavior rule according to operating conditions by the network element* (see "determining a new admission control policy data from said plurality of collected current control policy data" recited col. 2 lines 55-57, noting that "the method further comprises the steps of: collecting a plurality of performance data, each relating to a performance of a respective node element; and determining said new admission control policy data from said plurality of collected performance data." recited col. 2 lines 63-67), *the behavior rule formulated in a central control entity* (fig. 2 item 200, "a network controller apparatus 200" recited col. 6 lines 21-22, and see "the network controller determines a new policy data from the collected current policy data received from the N switches" recited col. 12 lines 65-67, and further "having determined a new policy data table, or a set of new policy data tables, the network controller distributes the policy data table or new set of policy data table to each of the N switches at the N nodes of the network" recited col. 13 lines 7-10) *assigned to the network element* (said "network controller apparatus 200" is responsible for establishing the "new policy" for all nodes under its control thus effectively assigned thereto); *and forwarding data packets in accordance with the selected behavior rule by the network element* (see "operating said new admission control policy data at said plurality of node elements" recited col. 2 lines 58-59 and "which optimizes utilization of transmission resources within the network" recited col. 2 lines 33-34).

**Claim 26**, *a method for coupling a plurality of network elements* (see "the present invention aim to provide a control method and apparatus for controlling admission of communications connection to a communications network comprising a plurality of nodes and links" recited col. 2 lines 31-34, which is depicted in fig. 2 that "illustrates schematically a communications network comprising a plurality of node elements and a plurality of link elements" recited col. 5 lines), *the method comprising:*

*providing control entities* (fig. 2 switches e.g. "S1" – "S5" and see "each switch operates local control mechanisms for opportunistically selecting connection and admission control policies at a local switch level" recited col. 7 lines 14-16), *each assigned to a network element* (fig. 2 noting that each of said switch is associated with at least one "CEQ" [customer equipment device]" and see further "Customer equipment devices (CEQ) each associated with a switch" recited col. 6 lines 14-15);

*providing a plurality of behavior rules by the network element* (see "collecting a plurality of admission control policy data each relating to an admission control policy for admitting communications traffic data to a said node element" recited col. 2 lines 52-54), *the behavior rules formulated in the control entities* (fig. 2 switches "S1" – "S5", each of which in combination with the "network controller apparatus 200" performs control over certain "CEQs". Regarding *behavior rules formulated* there in, see **a.** "the switches each transmit their respective currently operating policy data to the network controller 200" recited col. 12 line 56-57; **b.** "the network controller determines a new policy data from the collected current policy data received from the N switches" recited col. 12 lines 65-57; **c.** "having determined a new policy data table, or a set of new policy data tables, the

network controller distributes the policy data table or new set of policy data tables to each of the N switches" recited col. 13 lines 7-10; and finally *d.* "the switches each receive the newly generated policy data from the network controller and merge it with their set of M decision table data" recited col. 13 lines 10-13) *assigned to the network element* (said "switches" are assigned to said "CEQs" as depicted in fig. 2); and

*coupling at least two control entities* (fig. 2 depicting the coupling of said switches and see "the switches linked by a plurality of transmission links L1-L7 comprising link devices" recited col. 6 lines 12-14) *by a protocol by way of which they exchange information for a harmonization of behavior rules* (see "In the best mode herein, each switch operates local control mechanisms for opportunistically selecting connection and admission control policies at a local switch level, whilst the network controller operates a centralized control mechanism improving the overall connection admission and control policies operated across the network at a strategic level, based on the results of currently implemented policies at each of the switches" recited col. 7 lines 14-21. It should be noted that said operation of "improving the overall connection admission and control policies ... at a strategic level based on ... policies at each of the switches" will necessarily require high degree of coordination or *harmonization of behavior rules* of mutually *coupled control entities*, which are the switches in Clark).

**Claim 27**, *a method for coupling a plurality of network elements* (see "the present invention aim to provide a control method and apparatus for controlling admission of communications connection to a communications network comprising a plurality of nodes and links" recited col. 2 lines 31-34, which is depicted in fig. 2 that "illustrates

schematically a communications network comprising a plurality of node elements and a plurality of link elements" recited col. 5 lines), *the method comprising:*

*providing control entities* (fig. 2 switches, e.g. "S1" – "S5" and see "each switch operates local control mechanisms for opportunistically selecting connection and admission control policies at a local switch level" recited col. 7 lines 14-16), *each assigned to a network element* (fig. 2 noting that each of said switch is associated with at least one "CEQ" [customer equipment device]" and see further "Customer equipment devices (CEQ) each associated with a switch" recited col. 6 lines 14-15); *and*

*providing a plurality of behavior rules by the network element* (see "collecting a plurality of admission control policy data each relating to an admission control policy for admitting communications traffic data to a said node element" recited col. 2 lines 52-54), *the behavior rules formulated in the control entities* (fig. 2 switches "S1" – "S5", each of which in combination with the "network controller apparatus 200" performs control over certain "CEQs". Regarding behavior rules formulated there in, see **a.** "the switches each transmit their respective currently operating policy data to the network controller 200" recited col. 12 line 56-57; **b.** "the network controller determines a new policy data from the collected current policy data received from the N switches" recited col. 12 lines 65-57; **c.** "having determined a new policy data table, or a set of new policy data tables, the network controller distributes the policy data table or new set of policy data tables to each of the N switches" recited col. 13 lines 7-10; and finally **d.** "the switches each receive the newly generated policy data from the network controller and merge it with

their set of M decision table data" recited col. 13 lines 10-13) *assigned to the network element* (said "switches" are assigned to said "CEQs" as depicted in fig. 2);

*autonomously selecting a behavior rule according to operating conditions by the network element* (see "determining a new admission control policy data from said plurality of collected current control policy data" recited col. 2 lines 55-57, noting that "the method further comprises the steps of: collecting a plurality of performance data, each relating to a performance of a respective node element; and determining said new admission control policy data from said plurality of collected performance data." recited col. 2 lines 63-67);

*forwarding data packets in accordance with the selected behavior rule by the network element* (see "operating said new admission control policy data at said plurality of node elements" recited col. 2 lines 58-59 and "which optimizes utilization of transmission resources within the network" recited col. 2 lines 33-34); *and*

*coupling at least two control entities* (fig. 2 depicting the coupling of said switches and see "the switches linked by a plurality of transmission links L1-L7 comprising link devices" recited col. 6 lines 12-14) *by a protocol by way of which they exchange information for a harmonization of behavior rules* (see "In the best mode herein, each switch operates local control mechanisms for opportunistically selecting connection and admission control policies at a local switch level, whilst the network controller operates a centralized control mechanism improving the overall connection admission and control policies operated across the network at a strategic level, based on the results of currently implemented policies at each of the switches" recited col. 7 lines 14-21. It



should be noted that said operation of "improving the overall connection admission and control policies ... at a strategic level based on ... policies at each of the switches" will necessarily require high degree of coordination or *harmonization of behavior rules* of mutually *coupled control entities*, which are the switches in Clark).

- **Regarding Dependent Claims**

**Claims 11**, wherein the operating conditions are given by any combination of line interruption, node failure, network loading, connection establishment, or network reconfiguration (refer to fig. 4 and see "The switch 400 generates its own status data by generating signals describing performance parameters [*operating conditions*] of the switch such as its loading [*network loading*]; its cell discard, which describes the number of cell being lost in the switch due to congestion [*line interruption* and/or *node failure*] and from which quality of service may be determined; the cell rate through its buffers [*connection establishment*], describing the data rate and hence the utilization of its own circuitry; and the demand at the switch i.e. the call arrival rate of service request at the switch" recited col. 7 lines 59-67).

**Claims 12 and 13**, wherein a behavior rule contains a selection of one of a plurality of paths (refer to fig. 14 and see "predicted status data 1401 from the prediction engine 806 describing predictions of status of the network, for example, predicted demand, predicted path utilization and the evolved policy data" recited col. 14 lines 6-9).

**Claims 19 and 20**, wherein the behavior rules can be delivered to the network element by way of network management from a control entity superordinated to a plurality of network elements (firstly, refer to fig. 2 and see "Connected with the network,

..., is a network controller apparatus 200" recited col. 6 lines 20-22, and then refer to fig. 10 and see "The network controller determines a set of new decision tables from the collected decision tables and distributes a new set of decision tables to each of the N node elements, which then proceed to operate the new decision tables throughout the network" recited Abstract lines 8-13).

**Claims 21, 22 and 23, wherein the behavior rules are created automatically** (refer to fig. 7 and see "Each of the plurality of switches S1-S5 has its own knowledge base, storing its own current decision table data from which current admission policy decisions are currently implemented, and generates its own of current status data representing the current performance of the switch operating in accordance with its current active admission policy decisions" recited col. 10 lines 1-8 and "The switch may select any one of its M stored decision tables under control of a local selection algorithm operated by the switch" recited col. 10 lines 29-31).

**Claims 24 and 28, wherein the method is used in a packet-oriented and/or connectionless communication network** (see "discrete packets of information offered to the network are routed through a network of packet switching exchanges" recited col. 1 lines 47-49).

**Claims 25 and 29, wherein the network element autonomously or independently selects a behavior rule according to the operating conditions** (see "each switch operates local control mechanisms for opportunistically selecting connection and admission control policies at a local switch level" recited col. 7 lines 14-16).

***Response to Arguments***

3. Applicant's arguments filed on 12/26/2007 have been fully considered but they are not persuasive.

Applicant's arguments focus on the newly adding feature of claim 10 wherein added is "*the behavior rule [is] formulated in a central control entity assigned to the network element*" over Clark. For this limitation, Applicant argues (page 5 third paragraph) "*Clark fails to disclose that a control entity is assigned to multiple network elements, and that the behavior rules are formulated in a central control entity assigned to the network element*". Further, Applicant continues (page 5 fourth paragraph) "*the behavior rules are not, however, formulated by the central entity (network controller 200 in Clark)*".

Examiner respectfully disagrees.

First of all, Clark clearly shows that the network controller 200 is *assigned to multiple network elements* comprised of a plurality of switches (fig. 2) wherein "the switches each receive the newly generated policy data from the network controller" (col. 13 lines 10-12), noting that the fact of the controller providing "newly generated policy data" to all the switches effectively has the controller assigned to the switches. Also, it should be noted that the purpose of Applicant's assigning the central control entity is for providing the so-called *behavior rules* to be followed by the network elements which is exactly the same as Clark's controller setting new policies to be followed by the switches.

Secondly, Clark also clearly discloses that *the behavior rules are formulated in a central control entity* comprised of "the network controller determines a new policy data

from the collected current policy data received from the N switches" (col. 12 lines 65-67) and further "the network controller distributes the policy data table or new set of policy data tables to each of the N switches" (col. 13 lines 8-10). In other words, this clearly anticipated Applicant's *behavior rules formulated in a central control entity*.

### **Conclusion**

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 4,999,833 provides a network connectivity control by artificial intelligence using rule-based algorithms.

US 5,440,547 discloses data transfer routing management for packet oriented networks by selecting a route for a certain policy of the network.

US 2002/0035641 teaches a service allocation device and associated method wherein automatically operated policy servers are used in deciding service allocations throughout the network by adjusting competing service requests and making new settings.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Lai whose telephone number is 571-272-9741. The examiner can normally be reached on M-F 7:30-5:00 EST, Off alternative Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Yao can be reached on 571-272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Art Unit: 2616

/Andrew Lai/

Examiner, Art Unit 2616

/Kwang B. Yao/

Supervisory Patent Examiner, Art Unit 2616